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**Science In a Bag Activity / Teacher Page**

**Title**: Zolly from Ziffer

**Grade Level**

Third Grade Interdependence

**Standards**

* Grade Level Expectations: GLE 0307.2.1 Categorize things as living or non-living.
* State Performance Indicators: SPI 0307.2.1 Distinguish between living and non-living things.
* Check for Understanding: 0301.2.1 Use a T-Chart to compare and contrast the characteristics of living and non-living things.

**Task Objective**

The students will complete a sorting and categorizing activity involving representations of various living and non-living things. The students will use this knowledge to develop a short story and illustrate it.

**Background Knowledge for Teachers**

All living things share certain characteristics.

* Made of cells
* Have different levels of organization
* Respond to their environment
* Adapt to their environment
* Grow and develop
* Reproduce
* Consume energy

Things that were once living are considered living (dinosaur). Items derived from once-living things are considered non-living (jam is non-living but is made from the fruit of a living plant).

**Common Misconceptions**

It is the perception of some students that movement is a characteristic of living things. While living things do have the capacity to respond to their environment through motion, this does not imply that movement is a shared characteristic. After all, a car can move but it is not a living thing.

Students also have the misconception that dead organisms are classified as non-living when in fact extinct and once living organisms are classified as living.

Some students will have difficulty determining that a cartoon character is not a living thing. The confusion stems from the animated nature of cartoon characters and how they represent living things or people.

**Real World Connection**

The concept of living and non-living things is the basis for further exploration into the relationships between producers, consumers, and decomposers and their functions within the ecosystem.

**Connections Across the Curriculum**

* *English Language Arts / writing and logic*

Develop a short story explaining the differences between living and non-living things to Zolly, a visitor from the planet Ziffer.

GLE 0301.3.1 Write for a variety of purposes to different audiences.

GLE 0301.5.1 Develop logic skills to enhance thoughtful reasoning and to facilitate learning.

* *Art Education / visual art*

Illustrate the topic sentences.

Checks for Understanding 2.8 Create works of art with intended meaning.

* *Mathematics*

Represent the division of living and non-living things as a fraction.

GLE 0306.2.5 Understand the meaning and uses of fractions.

SPI 0306.2.11 Recognize and use different interpretations of fractions.

Checks for Understanding 0306.2.12 Compare fractions using drawings, concrete objects, and benchmark fractions

Checks for Understanding 0306.2.13 Understand that when a whole is divided into equal parts to create unit fractions, the sum of all the parts adds up to one.

**References**

The Seven Characteristics of Life

<http://infohost.nmt.edu/~klathrop/7characterisitcs_of_life.htm>

The Misconception Database

<http://www.classzone.com/books/misconception_fl_broward/page_build.cfm?content=misconcept_data3_div1&state=none>



Science in a Bag – Student Page

Zolly from Ziffer

**Grade Level**

Third Grade: Interdependence

**Standards**

* Grade Level Expectations: GLE 0307.2.1 Categorize things as living or non-living.
* State Performance Indicators: SPI 0307.2.1 Distinguish between living and non-living things.
* Check for Understanding: 0301.2.1 Use a T-Chart to compare and contrast the characteristics of living and non-living things.

**Task Objective**

Complete a sorting and categorizing activity involving representations of various living and non-living things. Use your knowledge of the characteristics of living and non-living things to outline a short story and illustrate it.

**Materials Needed**

* Bag containing an assortment of small items:

Ball, hands noisemaker, flower, Bart Simpson, skateboard, car, cow, lizard, coral, glasses, turtle, ant, dinosaur skeleton, frog, and a cube with small balls.

* T-Chart “Science In A Bag”
* Pencil
* Crayons
* Graphic Organizer: “Picture Note Making”

**Procedure**

1. Randomly select items from the small bag and sort them into two piles—living things and non-living things.
2. Sketch pictures of your items in the appropriate section of your T-Chart.
3. Answer the assessment questions 1-4. Answer these questions on the back of your T-Chart.
4. Using the Graphic Organizer “Picture Note Making”: Write three topic sentences for your story.

* This activity is the first in a series of activities we will perform with “Zolly from Ziffer.” The topic sentences you develop will eventually be used for another project in English.

1. Clean up the supplies. Please leave all materials as you found them.
2. Place your T-Chart in your Science Journal and your graphic organizer in your English Language Arts folder.

**Assessment**

1. What characteristics do living things share?

2. Is movement a characteristic of a living thing? Why or why not?

3. List at least three examples of both living and non-living things that were not included in this activity.

4. Approximately what percentage of the items in the bag represent living things? Non-living things? Write an equivalent fraction. Show your work.

4. Zolly from planet Ziffer is visiting you on summer vacation. She can only eat living things, but does not know how to tell the difference between living and non-living things. Using the Graphic Organizer, write three topic sentences for a short story about how you would help Zolly. Illustrate these ideas. We will be using this for another project in English.

**Clean Up**

1. Please leave all materials as you found them.
2. Place your T-Chart in your Science Journal and your graphic organizer in your English Language Arts folder.